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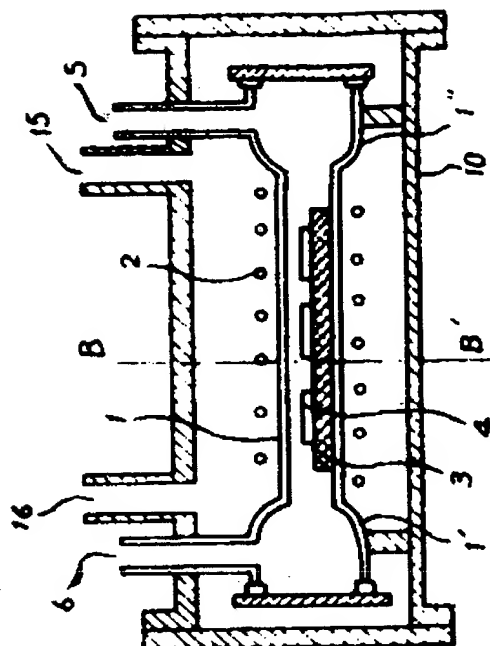
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TITLE : GAS PHASE GROWING DEVICE



ABSTRACT : PURPOSE: To perform gas phase epitaxial growth without wasting reaction gas by a method wherein a reaction tube with built-in heater is housed in a pressure resistant container with the internal pressures in the tube and container being linked together.

CONSTITUTION: A quartz reaction tube 1 has parts of square shape where it is heated by high frequency coil 2 and the coil 2 is wound near the susceptor 3. The structure is effective in reducing magnetic flux loss and thus provides high power efficiency. The two ends 1', 1'' having circular sectional area to facilitate charging and discharging the susceptor 3 and wafers 4 and to allow easy sealing. Reaction gas and carrier gas are introduced at 5 and discharged at 6. This type of reaction tube 1 is weak against external pressure and therefore is housed in a pressure container 10, which is evacuated at 16 and its internal pressure reduced to the same pressure as that in the reaction tube 1. That is, N_2 is passed through 15 into the container 10 and the pressure is reduced to the same level as that of the reaction tube 1, thus communicating the flowing gas and vacuum system so that the reaction tube 1 can be prevented from imploding. In this manner, the reaction tube is reduced in sectional area, thus reducing the reaction gas and enabling gas phase growth with smaller power consumption.

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